

CLAIM OR CLAIMS

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1. A blood drawing system for drawing blood from a blood vessel of a living being, the system comprising:

a) a first conduit through which blood drawn from a blood vessel can flow, said first conduit having a closure member for selectively closing the first conduit at a closure site thereof;

b) a first collection vessel for receiving blood and having an exteriorly-operable pressure controller for application of negative or positive pressure within said first collection vessel;

c) a hollow-shaft member;

d) a second conduit having a first end in fluid communication with the first conduit and a second end in fluid communication with the first collection vessel; and

e) a third conduit having a first end in communication with the first conduit and a second end in communication with the hollow shaft member, whereby closing the first conduit allows medicament liquid transfer from the first collection vessel through the hollow shaft member upon positive pressure application with the pressure controller within the first collection vessel.

2. A blood drawing system as claimed in Claim 1 wherein the closure member of the first conduit is an exteriorly-operable clamp.

3. A blood drawing system as claimed in Claim 1 wherein the first collection vessel is a syringe.

4. A blood drawing system as claimed in Claim 3 wherein the pressure controller is a plunger within said syringe.

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5. A blood drawing system as claimed in Claim 1 wherein the hollow shaft member is a needle..

6. A blood drawing system for drawing blood from a

blood vessel of a living being, the system comprising:

a) a first conduit through which blood drawn from a blood vessel can flow, said first conduit having a clamp for selectively closing the first conduit;

b) a syringe for receiving blood and having an exteriorly-operable plunger for application of negative or positive pressure within the syringe;

c) a hollow needle;

d) a second conduit having a first end in fluid communication with the first conduit and a second end in fluid communication with the syringe; and

e) a third conduit having a first end in communication with the first conduit and a second end in communication with the hollow needle, whereby closing the first conduit allows medicament liquid transfer from the syringe through the hollow needle upon positive pressure application with the plunger within the syringe.

7. A method of drawing blood from a blood vessel of a living being, the method comprising:

a) connecting a blood vessel conduit leading from the blood vessel to a blood drawing system, the system comprising:

i) a first conduit through which blood from the blood vessel conduit can flow, said first conduit having a closure member for selectively closing the first conduit at a closure site thereof;

ii) a first collection vessel for receiving blood and having an exteriorly-operable pressure controller for application of negative or positive pressure within said first collection vessel;

iii) a hollow-shaft member;

iv) a second conduit having a first end in fluid communication with the first conduit and a second end in fluid communication with the first collection vessel; and

v) a third conduit having a first end in communication with the first conduit and a second end in communication with the hollow shaft member, whereby closing the first conduit allows medicament liquid transfer from the first collection vessel through the hollow shaft member upon positive pressure application with the pressure controller within the first collection vessel;

b) connecting a second collection vessel having a negative pressure therein in fluid communication with the hollow shaft member;

c) operating the pressure controller and creating a negative pressure within the first collection vessel for drawing blood from the first conduit through the second conduit into the first collection vessel;

d) closing the first conduit at the closure site thereof;

e) operating the pressure controller and creating a positive pressure within the first collection vessel for forcing blood from the first collection vessel through the second conduit into the first conduit to the closure site thereof and thereafter into the third conduit and delivery into the second collection vessel; and

f) removing the second collection vessel from the system.

8. A method of drawing blood as claimed in Claim 7 wherein in the blood drawing system the closure member of the first conduit is an exteriorly-operable clamp.

9. A method of drawing blood as claimed in Claim 7 wherein in the blood drawing system the first collection vessel is a syringe.

10. A method of drawing blood as claimed in Claim 9 wherein in the blood drawing system the pressure controller is a plunger within said syringe.

11. A method of drawing blood as claimed in Claim 7 wherein the second collection vessel is a vacuum tube with a needle-penetrable stopper closing a single entrance to said vacuum tube.

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12. A method of drawing blood from a blood vessel of a living being, the method comprising:

a) connecting a blood vessel conduit leading from the blood vessel to a blood drawing system, the system comprising:

i) a first conduit through which blood from the blood vessel conduit can flow, said first conduit having a clamp for selectively closing the first conduit at a closure site thereof;

ii) a syringe for receiving blood and having an exteriorly-operable plunger for application of negative or positive pressure within the syringe;

iii) a hollow needle;

iv) a second conduit having a first end in fluid communication with the first conduit and a second end in fluid communication with the syringe; and

v) a third conduit having a first end in communication with the first conduit and a second end in communication with the needle, whereby closing the first conduit allows medicament liquid transfer from the syringe through the needle upon positive pressure application with

the plunger within the syringe;

b) connecting a vacuum tube in fluid communication with the needle;

c) operating the plunger and creating a negative pressure within the syringe for drawing blood from the first conduit through the second conduit into the syringe;

d) closing the first conduit at the closure site thereof;

e) operating the plunger and creating a positive pressure within the syringe for forcing blood from the syringe through the second conduit into the first conduit to the closure site thereof and thereafter into the third conduit and delivery into the vacuum tube; and

f) removing the vacuum tube from the system.

13. An intravenous system for delivering a medicament liquid to a blood vessel and for collecting blood from the blood vessel through the system and substantially free of said medicament liquid, the system comprising:

a) a vascular first conduit having a first end thereof for liquid communication with a storage container for storing the medicament liquid and a second end thereof for liquid communication with the blood vessel;

b) a first collection vessel for receiving blood and having an exteriorly-operable pressure controller for application of negative or positive pressure within said first collection vessel;

c) a hollow shaft member;

d) a second conduit having a first end in fluid communication with the first conduit and a second end in fluid communication with the first collection vessel, said second conduit having a closure member for selectively closing the second conduit ; and

e) a third conduit having a first end in fluid communication with the first conduit and a second end in fluid communication with the hollow shaft member, said third conduit having a closure member for selectively closing the third conduit, whereby closing the third conduit, opening the second conduit, and applying negative pressure to the first collection vessel collects in said first collection vessel at least substantially all medicament liquid within the first conduit, and thereafter closing the second conduit and opening the third conduit directs substantially medicament liquid-free blood within the first conduit as present from the blood vessel.

14. An intravenous system for delivering a medicament liquid to a blood vessel as claimed in Claim 13 wherein each closure member is an exteriorly-operable clamp.

15. An intravenous system for delivering a medicament liquid to a blood vessel as claimed in Claim 13 wherein the first collection vessel is a syringe.

16. An intravenous system for delivering a medicament liquid to a blood vessel as claimed in Claim 15 wherein the pressure controller is a plunger within said syringe.

17. An intravenous system for delivering a medicament liquid to a blood vessel as claimed in Claim 15 wherein the hollow shaft member is a needle.

18. A method of drawing blood through an intravenous medicament liquid-delivery blood vessel conduit from a blood vessel of a living being, the method comprising:

a) connecting the blood vessel conduit leading from the blood vessel to a blood drawing system, the system comprising:

i) a vascular first conduit having a first end thereof for liquid communication with a storage container for storing the medicament liquid and a second end thereof for liquid

communication with the blood vessel;

ii) a first collection vessel for receiving at least medicament liquid and having an exteriorly-operable pressure controller for application of negative or positive pressure within said first collection vessel;

iii) a hollow shaft member;

iv) a second conduit having a first end in fluid communication with the first conduit and a second end in fluid communication with the first collection vessel, said second conduit having a closure member for selectively closing the second conduit ; and

v) a third conduit having a first end in fluid communication with the first conduit and a second end in fluid communication with the hollow shaft member, said third conduit having a closure member for selectively closing the third conduit, whereby closing the third conduit, opening the second conduit, and applying negative pressure to the first collection vessel collects in said first collection vessel at least substantially all medicament liquid within the first conduit, and thereafter closing the second conduit and opening the third conduit directs substantially medicament liquid-free blood within the first conduit as present from the blood vessel;

b) connecting a second collection vessel having a negative pressure therein in fluid communication with the hollow shaft member;

c) closing the closure member of the third conduit, opening the closure member of the second conduit, and operating the pressure controller and creating a negative pressure within the first collection vessel for drawing at least medicament

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liquid from the first conduit through the second conduit into the first collection vessel;

d) closing the closure member of the second conduit, opening the closure member of the third conduit, and collecting substantially medicament liquid-free blood from within the first conduit as present from the blood vessel into the second collection vessel; and

e) closing the closure member of the third conduit and removing the second collection vessel from the system.

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19. A method of drawing blood through an intravenous medicament liquid-delivery blood vessel conduit as claimed in Claim 18 wherein in the blood drawing system each closure member is an exteriorly-operable clamp.

20. A method of drawing blood through an intravenous medicament liquid-delivery blood vessel conduit as claimed in Claim 18 wherein in the blood drawing system the first collection vessel is a syringe.

21. A method of drawing blood through an intravenous medicament liquid-delivery blood vessel conduit as claimed in Claim 20 wherein in the blood drawing system pressure controller is a plunger within said syringe.

22. A method of drawing blood through an intravenous medicament liquid-delivery blood vessel conduit as claimed in Claim 18 wherein the second collection vessel is a vacuum tube with a needle-penetrable stopper closing a single entrance to said vacuum tube.

23. A method of drawing blood through an intravenous medicament liquid-delivery blood vessel conduit from a blood vessel of a living being, the method comprising:

a) connecting the blood vessel conduit leading from the blood vessel to a blood drawing system, the system comprising:

i) a vascular first conduit having a first



end thereof for liquid communication with a storage container for storing the medicament liquid and a second end thereof for liquid communication with the blood vessel;

ii) a syringe for receiving at least medicament liquid and having an exteriorly-operable plunger for application of negative or positive pressure within said first collection vessel;

iii) a hollow needle;

iv) a second conduit having a first end in fluid communication with the first conduit and a second end in fluid communication with the syringe, said second conduit having a clamp for selectively closing the second conduit; and

v) a third conduit having a first end in fluid communication with the first conduit and a second end in fluid communication with the hollow needle, said third conduit having a closure member for selectively closing the third conduit, whereby closing the third conduit, opening the second conduit, and applying negative pressure to the syringe collects in said syringe at least substantially all medicament liquid within the first conduit, and thereafter closing the second conduit and opening the third conduit directs substantially medicament liquid-free blood within the first conduit as present from the blood vessel;

b) connecting a vacuum tube in fluid communication with the needle;

c) closing the closure member of the third conduit, opening the closure member of the second conduit, and operating the plunger and creating a negative pressure within the syringe for drawing at

least medicament liquid from the first conduit through the second conduit into the syringe;

d) closing the closure member of the second conduit, opening the closure member of the third conduit, and collecting substantially medicament liquid-free blood from within the first conduit as present from the blood vessel into the vacuum tube; and

e) closing the closure member of the third conduit and removing the vacuum tube from the system.

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